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Building Effective Organizational Management With Bricolage And It Governance On Technology Acceptance Model

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BUILDING EFFECTIVE ORGANIZATIONAL MANAGEMENT WITH BRICOLAGE AND IT GOVERNANCE ON TECHNOLOGY ACCEPTANCE MODEL

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ABSTRACT

According to the times of economic confusion, this leads most organizations to implement IT and advanced technologies to support their businesses by concerning them as the building blocks of organizational development and competitiveness to achieve competitive advantage. In this way, the roles of information systems (IS) and information technology (IT) are more focused attentively. On the other hand, the IT resource allocation is limited, which most organizations expect to save IT budgets with low IT investment. The point of this study is to focus on IT development with bricolage by using and renovating existing IT systems and applications, which turn out to become resourceful solutions. However, bricolage must be investigated closely by responsible people to ensure that they are aligned with business-IT strategies. In this case, the Technology Acceptance Model (TAM) is the main facilitator to measure the acceptance of bricolage. Pointedly, this paper examines how stakeholders and top management build a long-term vision in the use of bricolage, which is considered as IT development tools to deliver business value-added and meet IT budgets with its requirements by using TAM to examine the alignment between bricolage and IT governance and its domains.

Keywords: Bricolage, IT Governance, Technology Acceptance Model (TAM), Organizational Strategy, Alignment

INTRODUCTION

In the digital age, there are advanced technologies, which are created and designed to meet the needs of business by agiling organizational activities rapidly. However, organizations also concern heavily on IT resource allocation during economic slump by merely focusing on IT investments, which could be over their IT budgets. To manage and save IT resources (budgets, people, and IT infrastructures), it is important to develop IT systems and applications, which are readily available and have possibility to transform to be new solutions. Notably, this is the concept of bricolage, which is created to build Information System Development (ISD) methodology to recognize the IT awareness, which follows business strategy and meets strategic development [1]. With the concept of bricolage, improvisational theorists adopted the bricolage concept [2] [3], coupled with IT developers [4]. Simultaneously, the integration between existing IT resources leads to emerge new artifacts and create new opportunities [5] to support the business and develop organizations further. However, the new artifacts from bricolage must be reviewed by responsible people, who concern them to be governed and must be aligned IT governance effectively.

Referring to the fact, there were several world famous corporate governance scandals in 2001. Then, Sarbanes-Oxley Act of 2002 was legislated by the United States Congress to strengthen the effectiveness of corporate governance by concentrating on the quality of internal control and financial statements [6]. Since then, governance topics have become a crucial aspect for organizations in this decade. Furthermore, the corporate governance has been examined with more interest in public due to regulatory change, legal deliveries, and renowned private-sector oversight organizations [7]. Subsequently, IT governance was emerged, which is an essential component of corporate governance and fits in every industry [8]. Based on the key to overcome business competitors through business survival, IT governance is the resourceful solution, which defines and indicates the value of IT clearly by facilitating organizations to achieve competitive advantage in worldwide businesses [9].

In order to build a long-term vision in the use of bricolage, stakeholders and top management must decentralize their responsibilities by sharing knowledge [10] and technologies. This means they must focus on organizational development by renovating existing tools to become new solutions to add value to the business and meet IT budgets and its requirements. Throughout this paper, there are two main questions, which are “How does bricolage align IT governance?” and “Which domains of IT governance are supported by bricolage?”. Based on these research questions, TAM is the research methodology to measure the acceptance of bricolage by examining, proposing and clarifying the alignment between bricolage and IT governance and its domains. In literature review, this paper presents the literatures of Bricolage, IT governance, and TAM. The conceptual model is shown in the next section, along with research methodology and discussion. Lastly, the conclusion of this paper is contributed in the end.

LITERATURE REVIEW

Bricolage

Levi-Strauss was anthropologist, who created bricolage concept [11], which is mainly adopted in dynamic processes within organizational contexts [12], especially immature organizations with limited resources [13] and entrepreneurial organizations [5]. Bricolage is considered as a creative process with restructuring of remaining objects and transform to new artifacts or

solutions [14] [15] by combining objects together and creating new innovations for new purposes and new opportunities [16]. Moreover, bricolage uses existing resources (familiar equipment and materials), which are available at that time to build new shapes or new structures by inventing and assembling them into new processes to solve the remaining problems [17]. At the same time, the processes and materials of briocolage are presented formally, which are based on the scientific and engineering theories that affect to humanistic value [18].

According to the business concept to achieve competitive advantage, IT plays important role to support stakeholders and top management [19] [20]. In this way, they choose to implement IT because they gained more understandings and acknowledged positive experiences, which IT can develop their businesses and they also can approach new business opportunities at the same time [1]. These lead to their attentions in bricolage concept during global recession due to cost savings and efficiency, which IT hardware and IT software resources are considered as handy tools or materials in the organization. Consequently, creative concerns, pragmatic tools, and bricolage are supportive mechanisms [15] to achieve competitive advantage, overcome business competitors, and encounter numerous difficulties in the industry [21] [22]. This means bricolage mainly interacts with different business activities in organizational innovations and organizational change management to re-structure organizations [23], which mainly support organizations to save IT budgets, spend less IT investments, gain more profits and achieve business objectives by using existing objects and renovating them to make new supplies to support the business operations.

IT Governance

According to the organizational maturity assessment, there are five domains to develop an integrated framework: (1) strategy, (2) technology, (3) organization, (4) people, and (5) environment [24]. IT infrastructure, security, user's concerns, awareness, skills, and regulations are the main influences, which affect the resistance and acceptance of users directly and indirectly by involving in these five domains [25]. In this decade, most large organizations consider IT governance as one of core business domains, which must be implemented in the organizations. This leads to investigate IT governance further by emphasizing on its domains, which contains: (1) strategic alignment, (2) value delivery, (3) risk management, (4) resource management, and (5) performance measurement [26].

With respect to IT governance, it is positioned in the relationship among and between business and IT management by brainstorming business ideas and activities, which involves IT awareness and IT perception to maintain different relationships and multiple IT skills of IT experts mutually in business and IT domains [27]. Consequently, it is important to understand IT governance by sharing business knowledge and IT skills to manage organizations perfectly. Based on IT governance responsibilities, there are different issues in IT governance agendas, which involve IT activities; for instance, organizational objectives, organizational opportunities and risks, core processes and major capabilities [28]. Beyond these developments, these factors are considered as the main components of IT governance processes, which are operated by organizational strategy to control and manage resources, in particular IT skills, IT performance and IT risk, productivity, performance measurement, Service Level Agreements, change management, and reporting [29].

In the contemporary business, most organizations aim to succeeded their projects and try to achieve competitive advantage and by implementing IT resources [27]. In this way, organizational strategy is a vital issue to build innovative projects [4] by cooperating with IT to align the business, which must always involve investment costs and return on investment. At this point, it is vital to manage IT resources. IT is a resource of information which, supports and enhances organizational performance at any stage [30] [31] [32], develops organizational capabilities by considering as the main basis to sustain competitive advantage [33]. In brief, the resources can be realized as hard and soft assets [27] by dividing into two areas, which are hard resources (IT infrastructures) and soft resources (human resources, IT best practices, IT expertise, IT knowledge and skills, and IT experiences) [34] [35] including the shared capability and future development potential of an organization [33].

Meanwhile, there are three main components of resource based view of organization, which are IT resources (advanced technologies and applications), human resources (IT responsibilities and roles, IT management, IT trainings and knowledge, IT practices, IT skills and management), and business resources (strategic planning with IT planning and alignment, cost control, resource accessibility, IT licenses) including IT process re-engineering with cross functional training and inter-organizational relationships [36]. Therefore, IT resources concern to IT experts, IT skills and IT knowledge to escalate organizations in meeting competitive advantage [32]. This leads to deliver business value to obtain more profits, optimize effective operations and create better learning cultures [37]. Certainly, most organizations should draw high attention to the advantages of business - IT strategic alignment as they are resourceful approach and well-recognized solution to transform business and deliver better business value [38] [39]. This alignment leads to emerge innovations, which are considered as part of critical success factors by getting motivations from business and IT [40].

In addition, there are three factors to evaluate IT value, which are "profitability", "effectiveness", and "total value created" [33]. These three factors can sustain businesses to gain competitive advantage by increasing more profits, operating jobs effectively with low risk, and promoting higher organizational positions to become leaders in the industry from value creation. On the other hand, it is vital to consider these concerns (organizational size, growth forecast, key operational activities, industry types, financial services, and IT assistance), which influence IT value [41] [42]. Consequently, these effects focus on value delivery, which is one of the IT governance domains.

Technology Acceptance Model (TAM)

In the IT area, TAM is one of the most common adoption models, which identifies a method of technology acceptance from different variables (IT experiences, IT knowledge levels, and ages of IT users) and lead to concern the user beliefs and attitudes in the use of IT. In doing so, it concerns to the different usage behaviors; for example, 'perceived usefulness' and 'perceived ease-of-use', which indicate an individual's attitude to the use of IT, behavioral intentions, and the actual usage of IT [43],

together with knowledge of 'institutional trust', 'perceived risk', and 'information integrity' [44] [45] [46]. Obviously, TAM has been widely used [47] to support IT adoption in organizational environments efficiently with value-added results [48]. At this point, it supports to assume and define user behaviors and their IT usages [43] [49] [50].
In keeping with the advantages of TAM, it helps user decision makings to accept a new IT easily by highlighting (1) perceived usefulness (PU), which identifies user expectations in the use of IT to develop better work performance, and (2) perceived ease-of-use (PEOU), which uses IT measures to define the levels of belief [49]. Therefore, it is clear to understand that PU impacts to the purpose of user in IT adoption directly. On the other hand, PEOU influences IT adoption, which is free of effort in the actual use of IT and also meets the user purposes [51]. Consequently, PU and PEOU are vital factors of IT usage and IT experiences, which top management should provide IT skills and IT trainings to meet the user ages, experiences, and requirements. Moreover, IT measures assist to control IT usage in IT adoption and return on IT investments [52]. Thus, executive management people and IT experts should adopt IT measures to gain user acceptance of IT in a holistic view.

Conceptual Model
The point of this study is to focus on IT development with bricolage by using and renovating existing IT systems and applications, which turn out to become resourceful solutions. However, bricolage must be investigated closely by responsible people to ensure that they are aligned with business-IT strategies. In this case, the Technology Acceptance Model (TAM) is the main facilitator to measure the acceptance of bricolage. Pointedly, this paper examines how stakeholders and top management build a long-term vision in the use of bricolage, which is considered as IT development tools to deliver business value-added and meet IT budgets with its requirements by using TAM to examine the alignment between bricolage and IT governance and its domains including its domains (strategic alignment, resource management, and value delivery) as presented in figure 1 below.

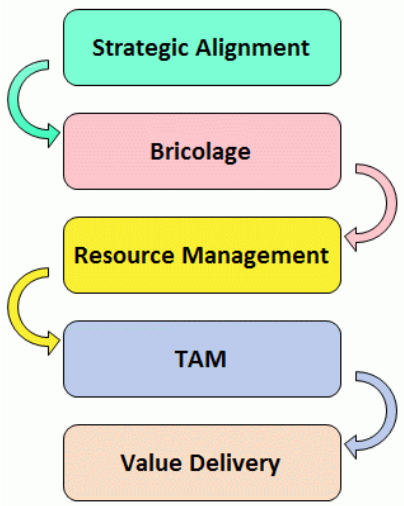

Figure 1: The conceptual framework of bricolage and IT governance and its domains on TAM

According to figure 1, it illustrates the conceptual framework of bricolage and IT governance and its domains on TAM. Initially, it explains that responsible people should focus on organizational strategy by emphasizing the use of IT and bricolage, which combines the available IT resources to be renovated and adapted to support organizational functions. At this point, stakeholders and top management should draw attention to improve organizations by improvising all IT resources to save IT budgets on IT investments. Thus, it is the way to manage IT resources effectively by checking and using IT resources at hand and on-site.
However, it is compulsory for these improvised IT resources to be validated by TAM in organizational environments [53] to measure and examine the acceptance levels of users by ensuring and recognizing that users accept bricolage and new developments. Then, these improvised IT resources are considered as value-added IT resources. Finally, they can deliver more value to support business. In this development, it is considered as value delivery, which aligns IT governance and its domains. In this way, it is vital to maximize various strengths of TAM to explore the IT (bricolage) usage, which could be modified to suit the user acceptance [54].
TAM is a simple model, which can be integrated with other theories and adjusted or extended reasonably in various directions with different extensions [55] [50] [56] [57]. Over the decades, this is the reason why TAM has been widely published and adopted in IT adoption [58] [59] [60]. Furthermore, the research methodology is available in the next section.

RESEARCH METHODOLOGY

This paper raises the interest by using qualitative research method [61]. It will obtain an interpretive approach through a cross sectional survey of data collection methods by interview, personal observation, and quantitative surveys from participating organizations. Simultaneously, it also adopts the 'how' questions in current circumstances [61] [62] [63] [64], which delve IT governance by asking "How does bricolage align IT governance?" and "Which domains of IT governance are supported by bricolage?". Further, in-depth approach is selected to examine organizational settings, which have complex human and IT

components [65]. Moreover, this paper seeks the ways on how responsible people build a long-term vision in the use of bricolage, which is considered as organizational development tools to deliver new IT value and meet organizational budgets and its requirements by using TAM to measure the acceptance of bricolage and also examine the alignment between bricolage and IT governance including its domains (strategic alignment, resource management, and value delivery).

Based on the literature review and conceptual model, they have discussed the nature of TAM in supporting and developing bricolage to measure the acceptance of bricolage and also examine the alignment between bricolage and IT governance including its domains. Basically, organizations attempt to overcome complex business processes and remaining problems by adopting effective IT resources to solve them and also adopt organization to achieve competitiveness and gain robust economic performance. However, they have limited IT budgets during economic slump, which lead this study to focus on the development through bricolage by using existing IT systems and applications. Then, they are developed and renovated, which turn out to become resourceful solutions.

At first, the executives must focus on the bricolage through IT governance. In doing so, they should focus on how to support organization and solve problems, which must be strategic alignment and also achieve competitive advantage. In this way, they have to consider the available IT resources and methods to invent or renovate them in achieving new solutions, which can create new opportunities or solve existing IT problems by considering organizational environments and business processes [66]. In this way, they are realized as valuable resources, which optimize growth and opportunities of organization to meet its competitive advantage. Certainly, it is important to provide IT knowledge and IT skills to support people. At the same time, the strategic alignment between IT and business emphasizes on top management support [20] and good communication [67] [68] to improve the potential of business in meeting organizational requirements in its environment. Due to this, they are the initial factors, which can be engaged in any project conclusively.

Bricolage & TAM:	**Customized**	**Established**	**Consistent**
IT Governance Domain:	Strategic Alignment, Resource Management, and Value Delivery		
Description:	Build confidence & strategic insight	Build business value to invent existing resources at hand	Build better relationship among stakeholders & effective accountability of staff in the use of resources wisely
Factor:	• IT resources • IT knowledge and IT skills • Top management support • Good communication • Effort in the use of IT • IT measures		
Result:	Higher productivity: organizational development and competitiveness		

Table 1: Summary points of bricolage, IT governance, and its domains on TAM

With regard to value delivery, it is indicated in the use of IT to create more value. However, executives should encourage and motivate people to use IT regularly by putting more effort [69] [70] [71]. Then, they will see positive results gradually in the long-run. Meanwhile, it leads to gain more attention from customers and achieve higher profits as well. To gain success, top management must realize the use of IT and decide to invent IT resources at hand, prior to investing more IT resources. Thus, it is a good technique to achieve the objectives of IT governance during global recession.

Meanwhile, top management should build stronger and closer relationships, which lead to have more cooperation [72] in the workplace to achieve effective IT governance implementation. Based on this paper, the integration between the TAM, bricolage, IT governance and its domains (strategic alignment, resource management, and value delivery) can provide higher productivity and maximize organizational strength, in particular organizational development, competitiveness and cost efficiency as shown above in table 1.This paper raises the interest by using qualitative research method [61]. It will obtain an interpretive approach through a cross sectional survey of data collection methods by interview in the following publications.

CONCLUSION

Significantly, this research focuses on the development through bricolage by using the existing IT resources. Then, they are renovated, which turn out to become resourceful solutions by using TAM to measure the acceptance of bricolage in complex environments and examine the alignment between bricolage and IT governance and its domains. With this development, the responsible people must pay high attention to analyze its alignment to meet organizational strategy and competitive advantage. Consequently, they must be patient and flexible to transform existing resources to new artifacts by understanding the bricolage concept. Moreover, TAM is very useful framework to validate the user acceptance appropriately. If the improvised IT resources are not validated or disqualified, they have to amend and test again to meet user acceptance. Finally, bricolage concept must align IT governance to support and strengthen relationships between business and IT and balance the use of resources to achieve resourceful development.

REFERENCES

[1] Ferneley, E. & Bell, F. (2006) 'Using bricolage to integrate business and information technology innovation in SMEs', *Technovation*, Vol. 26, No. 2, pp. 232-241.

[2] Weick, K.E., (1993) 'The collapse of sensemaking in organizations: the Mann gulch disaster', *Administrative Science Quarterly*, Vol. 38, No. 4, pp. 628-652.

[3] Innes, J.E. & Booher, D.E. (1999) 'Consensus building as role playing and bricolage: toward a theory of collaborative planning', *Journal of the American Planning Association*, Vol. 65, No. 1, pp. 9-26.

[4] Ciborra, C., (2002) *The labyrinths of information: challenging the wisdom of systems*, Oxford University Press, Oxford.

[5] Baker, T. & Nelson, R.E. (2005) 'Creating something from nothing: resource construction through entrepreneurial bricolage', *Administrative Science Quarterly*, Vol. 50, pp. 329-366.

[6] Hamdan, B.J. (2011) 'Examining the Antecedents of Sarbanes-Oxley Section 404 IT Control Weaknesses: An Empirical Study', In *International Conference on Information Systems*, Shanghai.

[7] OECD, (2004) *OECD Principles of Corporate Governance,* OECD Publications Service.

[8] Willson, P. & Pollard, C. (2009) 'Exploring IT governance in theory and practice in a large multinational organization in Australia', *Information Systems Management*, Vol. 26, pp. 98-109.

[9] Liang, T.P., Chiu, Y.C., Wu, S.P.J. & Straub, D. (2011) 'The Impact of IT Governance on Organizational Performance', In *AMCIS*.

[10] Brocklesby, J., (2009) 'Ethics beyond the model: How social dynamics can interfere with ethical practice in operational research/management science'. *Omega*, Vol. 37, No. 6, pp. 1073-1082.

[11] Sunley, P. & Pinch, S. (2012) 'Financing Social Enterprise: Social Bricolage or Evolutionary Entrepreneurialism?', *Social Enterprise Journal*, Vol. 8, No. 2.

[12] Levi-Strauss, C. (1967) *Structural Anthropology,* Garden City, New York, Anchor Books.

[13] Di Domenico, M., Haugh, H. & Tracey, P. (2010) 'Social bricolage: Theorizing social value creation in social enterprises', *Entrepreneurship Theory and Practice*, pp. 681-703.

[14] Jarzabkowski, P.(2003) 'Relevance in theory and relevance in practice: strategy theory in practice', In *19th EGOS Colloquium*. Copenhagen, Denmark.

[15] Stewart, I. & Fenn, P. (2006) 'Strategy: the motivation for innovation', *Construction Innovation: Information, Process, Management*, Vol. 6, No. 3, pp. 173 - 185.

[16] Garud, R. & Karnøe, P. (2003) 'Bricolage versus breakthrough: distributed and embedded agency in technology entrepreneurship*', Research Policy*, Vol. 32, pp. 277-300.

[17] Levi-Strauss, C. (1996) The savage mind, Oxford University Press, Oxford.

[18] Coleman, A.S. (2006) 'William Stetson Merrill and bricolage for information studies', *Journal of Documentation*, Vol. 62, No. 4, pp. 462 - 481.

[19] Luftman, J.N., Papp, R. & Brier, T. (1999) 'Enablers and inhibitors of business-IT alignment', *Communications of the Association for Information Systems*, Vol. 1, No. 11, pp. 1-32.

[20] Vera, D. & Crossan, M. (2005) 'Improvisation and innovative performance in teams', *Organization science*, Vol. 16, No. 3, pp. 203-224.

[21] Latham, M. (1994) *Constructing the Team: Joint Review of Procurement and Contractual Arrangements in the United Kingdom Construction Industry*, London, HMSO.

[22] Egan, J. (1998) *Rethinking Construction*, HMSO.

[23] Weick, K.E. (2001) Making sense of the organization, Blackwell.

[24] Al-Osaimi, K., Alheraish, A. & Bakry, S. (2006) 'An integrated STOPE framework for e-readiness assessments', In *the National Computer Conference, IT and Sustainable Development*, Riyadh, Saudi Arabia.

[25] Al-Gahtani, S.S. (2011) 'Modeling the electronic transactions acceptance using an extended technology acceptance model', *Applied Computing and Informatics*, Vol. 9, No. 1, pp. 47-77.

[26] ITGovernanceInstitute, (2005), 'IT Alignment: Who is in charge?', *IT Governance Institute*.

[27] Liu, Y., Lu, H. & Hu, J. (2008) 'IT Capability as Moderator Between IT Investment and Firm Performance', *Tsinghua Science & Technology*, Vol. 13, No. 3, pp. 329-336.

[28] ITGovernanceInstitute, (2003), 'Board Briefing on IT Governance*', IT Governance Institute*, 2003.

[29] De Haes, S. & Van Grembergen, W. (2009) 'An Exploratory Study into IT Governance Implementation and its Impact on Business/IT Alignment', *Information Systems Management*, Vol. 26, No. 2, pp. 123-137.

[30] Armour, P. (2000) 'The business of software: The case for a new business model', *Communications of the ACM,* Vol. *43,* No. 8, pp. 19-22.

[31] Armour, P., *The business of software.* Communications of the ACM, 2001. 44(3): p. 13-14.

[32] Kim, Y., Kang, H., Sanders, G. & Lee, S. (2008) 'Differential effects of IT investments: Complementarity and effect of GDP level', *International Journal of Information Management*, Vol. 28, No. 6, pp. 508 - 516.

[33] Lin, B. (2007) 'Information technology capability and value creation: Evidence from the US banking industry', *Technology in Society*, Vol. 29, No. 1, pp. 93 - 106.

[34] Bharadwaj, A. (2000) 'A resource-based perspective on information technology capability and firm performance: An empirical investigation', *MIS Quarterly*, Vol. 24, No. 1, pp. 169-196.

[35] Gunasekaran, A., Ngai, E. & McGaughey, R. (2006) 'Information technology and systems justification: A review for research and application'*, European Journal of Operational Research*, Vol. 173, No. 3, pp. 957 - 983.

[36] Teo, T. & Ranganathna, C. (2003) 'Leveraging IT resources and capabilities at the housing and development board', *The Journal of Strategic Information Systems*, Vol. 12, No. 3, pp. 229 - 249.

[37] Stoel, M.& .Muhanna, W. (2009) 'IT capabilities and firm performance: A contingency analysis of the role of industry and IT capability type', *Information & Management*, Vol. 46, No.3, pp. 181 - 189.

[38] Venkatraman, N. (1994) 'IT-enabled business transformation: from automation to business scope redefinition', *Sloan Management Review*, Vol. 35, No. 2, pp. 73-87.

[39] Levy, M., Powell, P. & Yetton, P. (2001) 'SMEs: aligning IS and the strategic context',. *Journal of Information Technology*, Vol. 16, No. 2001, pp. 133-144.

[40] Ward, J. & Griffiths, P. (1996) *Strategic planning for information systems*, Wiley, Chichester.

[41] Chatterjee, D., Pacini, .C., & Sambamurthy, V. (2002) 'The shareholder-wealth and trading-volume effects of information technology infrastructure investment*', J Manage Inf Syst*, Vol. 19, No. 2, pp. 7-43.

[42] Dehning, B., Richardson, V. & Stratopoulos , T. (2005) 'Information technology investments and firm value. Information & Management', Vol. 42, No. 7, pp. 989 - 1008.

[43] Davis, F.D., Bagozzi, R.P. & Warshaw, P.R. (1989) 'User acceptance of computertechnology: A comparison of two theoretical-models', *Management Science*, Vol. 35, No. 8, pp. 982-1003.

[44] Mayer, R.C., Davis, J.H. & Schoorman, F.D. (1995) 'An integrative model of organizational trust', *Academy Management Review*, Vol. 20, No. 3, pp. 709-734.

[45] McKnight, D.H., Choudhury, V. & Kacmar, C. (2002) 'Developing and validating trust measures for e-commerce: An integrative typology', *Information Systems Research*, Vol. 13, No. 3, pp. 334- 359.

[46] Ortega Egea, J.M. & Román González, M.V. (2011) 'Explaining physicians' acceptance of EHCR systems: An extension of TAM with trust and risk factors', *Computers in Human Behavior*, Vol. 27, No. 1, pp. 319-332.

[47] Yu, J., Ha, I., Choi, M. & Rho, J. (2005) 'Extending the TAM for a t-commerce', *Information and Management*, Vol. 42, No. 7, pp. 965-976.

[48] Lee, Y., Kozar, K.A. & Larsen, K.R.T. (2003) 'The technology acceptance model: Past, present, and future', *Communication of the Association for Information Systems*, Vol. 12, pp. 752-780.

[49] Davis, F.D. & Venkatesh, V. (1996) 'A critical assessment of potential measurement biases in the technology acceptance model: Three experiments', *International Journal of Human-Computer Studies*, Vol. 45, No. 1, pp. 19-45.

[50] Venkatesh, V. & Davis, F.D. (2000) 'A theoretical extension of the technology acceptance model: Four longitudinal field studies', *Management Science*, Vol. 46, No. 2, pp. 186-204.

[51] Gefen, D. (2000) 'The relative importance of perceived ease of use in IS adoption: A study of e-commerce adoption', *Journal of Association for Information Systems*, Vol. 1, No. 1.

[52] Burton-Jones, A. & Hubona, G.S. (2006) 'The mediation of external variables in the technology acceptance model', *Information and Management*, Vol. 43, No. 6, pp. 706-717.

[53] Dishaw, M.T. & Strong, D.M. (1999) 'Extending the technology acceptance model with task-technology fit constructs', *Information and Management*, Vol. 36, No. 1, pp. 9-21.

[54] Moon, J.-W. & Kim, Y.-G. (2001) 'Extending the TAM for a World-Wide-Web context', *Information and Management*, Vol. 38, No. 4, pp. 217-230.

[55] Taylor, S. & Todd, P.A. (1995) 'Understanding information technology usage: A test of competing models', *Information Systems Research*, Vol. 6, No. 2, pp. 144-176.

[56] Wixom, B.H. & Todd, P.A. (2005) 'A theoretical integration of user satisfaction and technology acceptance', *Information Systems Research*, Vol. 16, No. 1, pp. 85-102.

[57] Zhang, N., Guo, X. & Chen, G. (2008) 'IDT-TAM Integrated Model for IT Adoption', *Tsinghua Science and Technology*, Vol. 13, No. 3, pp. 306-311.

[58] Adams, D.A., Nelson, R.R. & Todd, P.A. (1992) 'Perceived usefulness, ease of use, and usage of information technology: A replication', *MIS Quarterly*, Vol. 16, No. 2, pp. 227-247.

[59] Straub, D., Keil, M. & Brenner, W. (1997) 'Testing the technology acceptance model across cultures: A three country study', *Information and Management*, Vol. 33, No. 1, pp. 1-11.

[60] Deng, X., Doll, W.J., Hendricksonc, A.R. and Scazzerod, J.A. (2005) 'A multi-group analysis of structural invariance: An illustration using the technology acceptance model', *Information & Management*, Vol. 42, No. 5, pp. 745-759.

[61] Benbasat, I., Goldstein, D.K. & Mead, M. (1987) 'The case research strategy in studies of information systems', *MIS Quarterly*, Vol. 11, pp. 369-386.

[62] Eisenhardt, K.M. (1989) 'Building theories from case study research', *Academy Management Review*, Vol. 14, No. 4, pp. 532-550.

[63] Walsham, G. (1995) 'Interpretive case studies in IS research: Nature and Method', *European Journal of Information Systems*, Vol. 4, No. 2, pp. 74-81.

[64] Yin, R.K. (2003) *Case study research: design and methods*, Sage Publications, Thousand Oaks, CA.

[65] Tyrell, S. (2002) *Using information and communication technology in healthcare*, Radcliffe Medical Press, Oxford.

[66] Cunha, M.P., Cunha, .J.V.D. & Clegg, S.R. (2009) 'Improvisation bricolage: a practice-based approach to strategy and foresight. Handbook of research on strategy and foresight', Edward Elgar Publishing, US.

[67] Weill, P. & Ross, J. (2004) *IT Governance: How Top Performers Manage It Decision Rights for Superior Results*, Harvard Business Press.

[68] De Haes, S. & Grembergen. W.V. (2005) 'IT Governance Structures, Processes and Relational Mechanisms: Achieving IT/ Business Alignment in a Major Belgian Financial Group', In *Hawaii International Conference on System Science*.

[69] Brockner, J., Grover, S., Reed, T.F. & DeWitt, R.L. (1992) 'Layoffs, job insecurity, and survivors work effort: Evidence of an inverted-U relationship', *Academy of Management Journal*, Vol. 35, pp. 413-425.

[70] Siegrist, J., Starke, D., Chandola, T., Godin, I., Marmot, M., Niedhammer, I. & Peter, R. (2004) 'The measurement of effort-reward imbalance at work: European comparisons', *Social Science and Medicine*, Vol. 58, No. 8, pp. 1483-1499.

[71] Byrne, Z.S., Stoner, J., Thompson, K. & Hochwarter, W. (2005) 'The interactive effects of conscientiousness, work effort, and psychological climate on job performance', *Journal of Vocational Behavior*, Vol. 66, No. 2, pp. 326-338.

[72] Cleaver, F. (2003) 'Reinventing institutions: Bricolage and the social embeddedness of natural resource management', Securing Land Rights in Africa, ed. T.A. Benjamin and C. Lund. 2003, London: Frank Cass.